

REMARKS

Claims 1-6, 8-15, 20, 24-27, 30 and 31 are pending in the instant application. Claims 1-6, 8-15, 20, 24-27, 30 and 31 all stand rejected in light of the present office action. The claims have been amended. Claim 1 has been amended to recite that the assay method takes place in the liquid state. Applicants respectfully submit that none of the amendments constitute new matter in contravention of 35 U.S.C. §132. Reconsideration is respectfully requested.

For convenience, Applicant's comments are numbered using the numbering provided in the office action.

1. Claim 30 stands rejected under 35 USC § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Examiner submits that the term "high" in claim 30 is a relative term which renders the claim indefinite. The examiner's attention is directed to the text of the specification, page 6 lines 15-32 where natural abundance and artificially-enhanced abundance of NMR active nuclei is discussed. Applicants contend that the skilled person would know that "an artificially high concentration of the NMR active nucleus" means the same as "an artificially-enriched abundance of the NMR active nucleus. Reconsideration and withdrawal of the rejection is respectfully requested.

2. Claims 1-6, 8-15, 20, 27 and 30 are rejected under 35 USC § 103(a) as being unpatentable over Yu in view of Hall. This rejection is respectfully traversed.

The present invention discloses a liquid state assay method to monitor a physical or chemical change involving a chemical or biological species. Only the hyperpolarization methods claimed, i.e. dynamic nuclear polarization and para-hydrogenation, provide hyperpolarized solutions of molecules suitable for carrying out a liquid state assay.

Yu describes an NMR method in a liquid state whereas Hall describes a hyperpolarization method in solid state. There is therefore no practical use for the method described by Hall to be applied to the assay described by Yu. As a consequence, Applicants respectfully submit that the teachings of Yu and Hall cannot be properly combined and therefore cannot lead to the present invention.

Therefore, because Hall and Yu are not combinable references, the present invention is believed to be patentable over the prior art. Reconsideration and withdrawal of the rejection are respectfully requested.

3. Claims 24 and 25 are rejected under USC § 103(a) as being unpatentable over Yu, in view of Hall, as applied to claim 1, and in further view of Obremski. This rejection is respectfully traversed.

As presented above, claims 1-6, 8-15, 20, 27 and 30 are believed to be patentable over Yu in view of Hall. Obremski discloses a biological assay wherein the assay is multiplexed and performed in a multispot assay array. Obremski does not teach anything that would correct the deficiencies of Hall and Yu. As claims 24 and 25 depend from allowable claim 1, it would be axiomatic that these claims are patentable as well. Reconsideration and withdrawal of the rejection is respectfully requested.

4. Claim 26 is rejected under USC § 103(a) as being unpatentable over Yu in view of Hall, as applied to claim 1, and in further view of Pines. This rejection is respectfully traversed.

As presented above, claims 1-6, 8-15, 20, 27 and 30 are believed to be patentable over Yu in view of Hall. Pines teaches that a sample can be analysed using both NMR spectroscopy and magnetic resonance imaging and that multiple parameters can be detected. However, Pines fails to disclose, teach or suggest hyperpolarization by dynamic nuclear polarization or para-hydrogen-induced polarization, i.e. a hyperpolarization method that

would result in a hyperpolarized solution so as to correct the deficiencies of Yu and Hall. As claim 26 depends from allowable claim 1, it would be axiomatic that this claim is patentable as well. Reconsideration and withdrawal of the rejection are respectfully requested.

5. Claim 31 is rejected under USC § 103(a) as being unpatentable over Yu in view of Hall, as applied to claim 1, and in further view of Neild. This rejection is respectfully traversed.

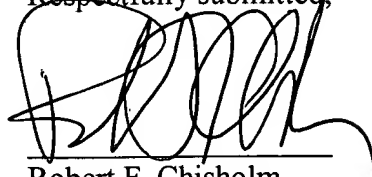
As presented above, claims 1-6, 8-15, 20, 27 and 30 are believed to be patentable over Yu in view of Hall. Neild teaches that individual magnetic nuclei can interact with each other to produce additional splittings of the NMR peaks and that these interactions are also used for structural identification. Neild fails to disclose, teach or suggest hyperpolarization by dynamic nuclear polarization or para-hydrogen-induced polarization, i.e. a hyperpolarization method that would result in a hyperpolarized solution to correct the deficiencies of Yu and Hall. Furthermore, as claim 31 depends from allowable claim 1, it would be axiomatic that this claim is patentable as well. Reconsideration and withdrawal of the rejection are respectfully requested.

Based on the amendments and remarks hereinabove, Applicants respectfully submit that the instant application, including claims 1-31, is now in condition for allowance. Favorable action thereon is respectfully requested.

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Any questions with respect to the foregoing may be directed to Applicants' undersigned counsel at the telephone number below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. Chisholm', written over a horizontal line.

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